

### ABSTRACT OF THE INVENTION

Disclosed is a method of modifying cell structure which includes: increasing the intracellular concentration of biliverdin reductase, or a fragment or variant thereof, in a mammalian cell under conditions effective to modify the structure of the mammalian cell. Also disclosed are methods of performing *in vivo* tissue remodeling in a mammal and repairing a damaged organ or organ system, both of which include delivering biliverdin reductase, or fragments or variants thereof, to one or more cells present at a site of tissue remodeling in a mammal, wherein said delivering increases the intracellular concentration of biliverdin reductase, or fragments or variants thereof, under conditions effective to modify the structure of the one or more cells at the site of tissue remodeling, thereby remodeling the tissue containing the one or more cells.

100045545-011412

*Sul A2*